

# Route 28 Corridor Plan

## INTRODUCTION

The County envisions the Route 28 Corridor as an airport-anchored gateway into Loudoun County offering a positive and welcoming business environment that supports significant job growth and economic activity in varied settings. The County also envisions the corridor evolving into a premier location for regional, national, and international businesses with a high-quality image that offers employees vibrant centers of activity and highly-integrated pedestrian and transit-friendly employment developments. This vision reinforces the County's commitment to the continued commercial growth of the corridor that in turn contributes to the overall fiscal health and economy of the County.

The Economic, Land Use, Transportation, Design, and Sustainable Development policies contained in the plan are intended to provide a framework for future development that reflects eight conceptual themes derived from the public process.

1. The Route 28 Corridor is an employment-based corridor that offers broad employment opportunities. The Corridor promotes a consistent pattern of development adjacent to Route 28 with higher-density office development and mixed-use activity centers. Residential densities are supportive and subordinate to employment densities within Mixed-Use Office Centers and in locations that can induce greater business activity.
2. The form and design of the Route 28 Corridor will be critical in promoting the County's vision of a high-quality office and commercial corridor that achieves higher office densities, attracts regional, national, and international businesses, and provides a unified development pattern throughout the corridor. The Route 28 Corridor creates "pP" places" or centers of activity offering office and office-supportive amenities along with public and civic uses that will give the corridor a community identity;
- ~~2. The Route 28 Corridor supports residential densities that are supportive and subordinate to employment densities within Mixed-Use Office Centers and in locations that can induce greater business activity;~~
- ~~4.3.~~ The Route 28 Corridor takes advantage of its proximity to Washington Dulles International Airport by attracting new aviation and airport-ancillary businesses to the corridor and supporting the expansion of existing airport-related businesses in appropriate areas. The airport's location on the southern end of the Corridor also generates demand

**Comment [EA1]:** Seems to me that there are really five themes: (i) Employment-based corridor, (ii) proximity to Dulles, (iii) importance of form and design to unify the corridor, (iv) multi-modal connectivity, and (v) sustainable development practices.

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for office space from businesses that want to locate close to an international airport as well as hotels, restaurants, and retail centers that cater to business travelers and tourists;

~~5.4.~~ The Route 28 Corridor promotes multi-modal connectivity, including transit, with the existing and planned transportation infrastructure;

~~6. The Route 28 Corridor promotes a consistent pattern of development adjacent to Route 28 with higher density office development and mixed-use activity centers;~~

~~6. The form and design of the Route 28 Corridor will be critical in promoting the County's vision of a high-quality office and commercial corridor that achieves higher office densities, attracts regional, national, and international businesses, and provides a unified development pattern throughout the corridor; and~~

~~8.5.~~ The Route 28 Corridor encourages sustainable development practices.

The Route 28 Corridor boundaries include properties that are generally bordered by Broad Run and Loudoun County Parkway to the west, Dulles Airport and Fairfax County to the south, Cascades Parkway, Potomac View Road, and the W&OD to the east, and Route 7 and Bles Park to the north. The map below shows the actual boundaries of the Route 28 Corridor. The properties contained within these boundaries are subject to the policies contained within the Route 28 Corridor Plan. These policies are described below.

## DESIGN

The development patterns supported in the Route 28 Corridor, including Mixed-Use Office Centers, Office Clusters, Office, and Flex, focus as much on the physical form and character of development as much as their uses. Adherence of development to the basic design standards below is important to achieving a unified development pattern in the corridor that is consistent with the Route 28 Corridor Land Development Patterns Map. Adherence to the basic design standards also contributes to a high-quality image for the corridor that attracts regional, national, and international businesses.

### General Policies

1. The County will develop a user-friendly, illustrative design handbook that reflects the Route 28 base design standards contained herein. The handbook will convey a high quality image for the Route 28 Corridor and promote an overall sense of place through design elements that relate to block size, circulation and connectivity, streetscape and

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street sections, building form, placement (setbacks), orientation, articulation, Parks and Open Spaces, Public and Civic uses, landscaping and sustainability.

2. A Route 28 Design Review Board will be established by the Board to administer and enforce the design standards.

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2.3. The base design standards emphasize the integration of natural features and shared, meaningful Parks and Open Spaces.

2.4. ~~The County supports the creation of projects within~~ Office Clusters and Mixed-Use Office Centers ~~that will~~ create a sense of place, and establish the Route 28 Corridor as a premier employment location. In particular, development of a gateway at the southern end of the corridor ~~is envisioned to will~~ convey a sense of arrival for visitors and business travelers to the Route 28 employment corridor and into Loudoun County. ~~The County supports a~~ Unique design ~~will occur~~ within or proximate to a Mixed-Use Office Center, ~~that including~~ iconic buildings, structures, and monuments, significant signage, and public art/sculptures that are visible from the gateway crossroads of Route 28 and the Dulles Greenway/Toll Road.

4.5. ~~The County encourages the submission of d~~Design commitments for proposed developments within the Route 28 Core and Route 28 Business areas ~~to will~~ demonstrate conformance with the standards of the plan.

4.6. The County will consider incentives for property owners to upgrade their existing developments to meet the Route 28 Corridor design standards.

4.7. Developments within the Route 28 Corridor will have minimal impact on environmentally-sensitive areas and surrounding residential uses and exhibit design consistent with the Green Infrastructure and land use policies of the Plan. Existing historic sites, as well as the natural environment, should be incorporated and highlighted in the overall architectural and landscape design.

7.8. Office Clusters and Mixed-Use Office Centers within the entire Route 28 Corridor will be subject to specific design standards contained herein.

8.9. Developments proposed in the Route 28 Business area will be subject to the applicable design standards for Office and Flex uses. Generally, Flex developments in these areas should be designed within a park-like atmosphere, exhibiting a high curb appeal through the use of extensive landscaping and coordinated building architecture. Office uses should be located to the front of the building along the roadways, with Flex uses and parking to the rear of the property.

9.10. Developments proposed in the Route 28 Industrial area will be subject to the applicable design standards for General Industrial uses.

10.11. Developments on small parcels that may not be able to achieve the full vision of an Office Cluster may be considered if the proposed development is able to meet the

intent of the design standards and can demonstrate compatibility and integration with adjacent developments.

### Office Cluster and Mixed-Use Office Center Design Standards

The Route 28 Core supports a development pattern of mid to high-density, compact, and pedestrian oriented Class A Office development through Office Clusters and Mixed-Use Office Centers.

Adherence to the base design standards listed below for Office Cluster and Mixed-Use Office Center developments establishes a consistent development pattern along Route 28 that supports a viable, cost-effective planned transit system. The base design standards also establish a more predictable development environment for businesses seeking to develop and locate into the corridor; ensure that development is compatible with adjacent land uses, contributes to the character of the neighborhood and larger community; create vibrant, pedestrian-oriented places; and support development that is high quality and visually appealing from adjacent streets and surrounding neighborhoods with an emphasis on building placement and orientation as well as site design.

The development pattern for Office Clusters ~~calls for~~will be highly-integrated, compact, mid- to high-rise employment settings. Buildings in Office Clusters will be four or more stories and will provide both structured parking and minimal surface parking. It is envisioned that larger-scaled buildings with building heights of five stories or more will be located along Route 28 with lower density and building heights further away. Office Clusters feature buildings arranged around squares, greens, plazas, forecourts, and courtyards on blocks formed with a rectilinear street pattern. Office Clusters also include landscaped, walkable streets that can feature buildings with storefronts offering ground floor Commercial Retail and Services. Office Clusters are encouraged to provide Parks and Open Space features such as pedestrian promenades, linear parks and trails, outdoor amphitheatres, and similar design features that invite additional pedestrian activity, recreation, and socialization.

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The development pattern for Mixed-Use Office Centers calls for a higher intensity of development than Office Clusters. Office buildings within Mixed-Use Office Centers ~~typically~~ contain seven or more stories. Parking within Mixed-Use Office Centers at full build-out ~~should~~ will consist primarily of structured parking. The centers should have a lively, robust character with an integrated mix of uses that include Office, Commercial Retail and Services, Residential, Parks/Open Spaces and Public/Civic Uses. The design of Mixed-Use Office Centers is similar to Office Clusters and features a compact urban design with pedestrian-oriented building and parking garage facades, ground-floor shops, and distinctive public spaces. Pedestrian and transit circulation are enhanced by short blocks arranged in a rectilinear grid-street pattern.

#### Site Design Standards:

1. Office Clusters and Mixed-Use Office Centers are ~~designed to be~~ higher density, compact, and highly integrated developments that foster pedestrian activity.

2. Development ~~should enhance~~ the existing character of the area, and builds upon an established sense of place in the surrounding neighborhoods.

~~2.3.~~ Heritage and environmental resources ~~should be~~are preserved and incorporated into the overall design of developments.

~~2.4.~~ Pedestrian and bicycle facilities ~~should be~~are incorporated into all new development.

~~2.5.~~ Transit stops ~~will be~~are incorporated into the layout of all Mixed-Use Office Centers.

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#### ***Street and Block Standards:***

1. Internal streets ~~should~~ follow a grid-street pattern to maximize pedestrian connectivity, improve traffic movement along multiple transportation routes and encourage shorter trips, unless precluded by natural and topographical barriers.

2. A hierarchy of streets ~~should be~~are identified, both internal and adjacent to the development, with street design standards that are context-sensitive to adjacent development. Street hierarchy ~~can include~~s primary streets where there is a focus of pedestrian activity, along with key areas of ground-floor retail activity where there is a high percentage of planned Commercial Retail and Service uses.

3. The street network ~~should promote~~provides the efficient movement of vehicles while minimizing conflicts with pedestrians and bicycles.

4. The pattern of the street network ~~shall be planned to~~provides connections to adjacent existing and planned developments. The street network shall connect to the surrounding street network.

5. Blocks ~~should be~~are configured at a pedestrian-scale that encourages walkability. "Superblocks" should be avoided. Perimeter block sizes within Mixed-Use Office Centers and Office Clusters generally should not exceed 2,000 feet.

6. Blocks in Mixed-Use Office Centers should ~~generally~~ not exceed 400 linear feet. To mitigate the impact of longer blocks, any one block with a linear length of 400 feet or greater should provide in the middle of the block an alley, driveway, pedestrian way or other significant pedestrian feature such as a plaza, park, or promenade.

#### ***Streetscape Standards:***

1. Streetscape design ~~should~~ensures the space between the buildings and the roadways contribute to a comfortable pedestrian environment providing adequate space for efficient, safe, and accessible pedestrian circulation and a sense of enclosure that supports

useable pedestrian spaces. Street trees and plantings ~~should be considered to~~ enhance the character of the street.

2. Large-lot commercial developments ~~should~~ provide both vehicular and non-vehicular linkages to surrounding areas and between office buildings and other uses.
3. Transit stops not integrated into buildings ~~should be~~ provided with covered bus stops and waiting areas to shelter pedestrians from extreme sun, wind or rain.

#### ***Building Standards:***

1. Office Clusters ~~should~~ feature buildings of four or more stories, except adjacent to Route 28 where buildings of five or more stories are envisioned. Mixed-Use Office Centers will feature buildings of seven or more stories with a general stepping down of densities towards the periphery of the development when necessary to be compatible with surrounding communities and developments.
2. Where not incorporated into mixed-use buildings, residential buildings within Mixed-Use Office Centers ~~should be~~ urban in character and compatible in form and scale with surrounding commercial buildings.
- ~~2.3.~~ Distances between buildings ~~should be managed to~~ create safe, pleasant, and active street-level environments and support pedestrian connectivity between buildings, thereby reducing the need for residents, employees, and visitors to drive their automobiles to reach supportive uses, including Commercial Retail and Services.
4. Buildings ~~should be~~ placed close to streets with minimal setbacks and include planting, pedestrian, sidewalk, and frontage zone standards appropriate to the context of adjacent development. Buildings should adhere to build-to-lines.
5. Primary building entrances ~~should be~~ oriented towards the street or a common gathering place such as a plaza, green, park, square, or pedestrian passageway. Pedestrians should be able to easily identify primary entrances into commercial establishments.
6. Buildings greater than 12 stories should be designed to include façade articulation with design details and features such as building step-backs, to reduce visual massing and mitigate impacts to adjacent properties.
7. Building materials and colors ~~should~~ exhibit high-quality designs with articulation on all sides of the building.
8. Mixed-Use Office Center service areas, including refuse and loading areas, should be enclosed within the principal building. Doors for access to the service areas should ~~be functional while~~ blending with the architectural treatment of the building.

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9. Office Cluster service areas, including refuse and loading areas, should be screened from view by visitors and passers-by through landscaping or screening.

#### ***Parking Standards:***

1. To encourage compact, pedestrian-oriented developments structured parking is supported within Office Clusters and Mixed-Use Office Centers. Office Clusters may contain both surface and structured parking, depending on the density proposed on-site. ~~At full build-out, whereas not less than~~ % of parking in Mixed-Use Office Centers will ~~contain be provided in~~ predominately structured parking ~~at full build out~~.
2. Phasing of surface to structured parking during the construction of Office Clusters and Mixed-Use Office Centers will be considered through the application process.
- ~~2.3.~~ The joint use of drive aisles and parking areas should be encouraged to reduce overall parking needs.
- ~~2.4.~~ Parking should be located to the rear of buildings, within the interior of blocks, with access from alleys or streets which do not conflict with pedestrian access.
5. Structured parking should be conveniently or centrally located, but visibly minimized from arterial streets and public spaces. Surface parking should not occupy lots which terminate a street vista or abut street intersections
6. In Mixed-Use Office Centers and Office Clusters with supportive uses, primary pedestrian streets with ground-floor structured parking should include ground-floor uses or liner buildings with retail, services, restaurants, and offices.
- ~~6.7.~~ Surface parking lots should be avoided along primary pedestrian streets. Surface parking lots should be adequately screened from the street-side.
8. At full build-out, parking ~~should be discouraged will not from be~~ located ~~ing~~ along blocks where it is the sole use.

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#### ***Parks and Open Spaces Standards:***

1. Parks and Open Spaces include pedestrian-scaled outdoor areas such as greens, squares, plazas, courtyards, forecourts, and playgrounds. Parks and Open Spaces also include open spaces in their "natural" state, such as forests, wetlands, or meadows; trails and trail connections and active and passive recreational spaces.
2. Parks and Open Spaces ~~should be~~ integrated purposefully into the overall design of the development and not merely ~~be~~ residual areas left over after buildings and parking lots are sited.
- ~~2.3.~~ Parks and Open Spaces designed to function as gathering places should be clearly identified and accessible to pedestrians and bicyclists.

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~~2.4.~~ Parks and Open Spaces ~~should be~~ dispersed so that all residential dwellings and non-residential buildings are located within 1,500 feet of such spaces.

5. Greens, squares, plazas, forecourts, and courtyards ~~should be~~ designed to be appealing places to gather with the type of amenities that foster informal social interaction among users. Examples of amenities within these areas include ponds, fountains, ornamental lamps, terraces, waterfalls, sculptures and other public art, planted beds, benches, drinking fountains, and clock pedestals.

6. Within Mixed-Use Office Centers, greens, squares, and plazas are encouraged to consider outdoor seating areas, amphitheatres, and other design elements that support more structured, formal activities.

~~6.7.~~ Small-scale single or two story commercial retail buildings, such as restaurants, coffee shops, bakeries, and public markets, are allowed within greens, squares, plazas, forecourts, and courtyards.

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~~6.8.~~ Heritage and environmental resources ~~are encouraged to~~ be incorporated into Parks and Open Spaces pursuant to the HPP.

~~6.9.~~ The preservation of environmentally fragile and valuable land and habitat will be given a priority for Open Space set-aside.

~~6.10.~~ Parks and Open Spaces should connect with and provide views to natural amenities.

~~6.11.~~ Developments should identify linkages to the existing or planned trail network.

~~6.12.~~ Mixed-Use Office Centers should provide active Open Space to serve the concentration of residents within the center.

### ***Public and Civic Standards***

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1. Public and Civic Uses shall be integrated into the community with maximum visibility and accessibility.

~~1.2.~~ Planned transit stops shall be provided at all Public and Civic buildings.

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~~1.3.~~ Prominent and highly visible sites should be prioritized for Civic and Public uses. Prominent sites include a location along a primary pedestrian street or at the terminus of a street vista.

~~1.4.~~ Parks and Open Spaces should be considered in combination with public and civic buildings that include seating areas, public art, planted beds, benches, drinking fountains, etc.

### ***Landscaping Standards:***



1. Landscaped areas should be used to frame and soften structures, to define site functions, to enhance the quality of the environment, and to screen undesirable views.

~~1.2.~~ Tree and plant selection and location should promote safety and security, enhance natural environment and stormwater management, provide shade for vehicles and pedestrians, reduce heat islands, and minimize maintenance requirements.

~~1.3.~~ Low water use plants and native vegetation ~~should will~~ be used to landscape new developments.

~~1.4.~~ No invasive plant species ~~should bare~~ allowed in the landscaping design.

#### ***Signage Standards:***

1. Visitors and residents should be able to locate and identify major attributes of the development through a unified signage concept.

~~1.2.~~ Buildings should carefully incorporate signs and lighting.

~~1.3.~~ Signage should contribute to the overall architectural and landscape theme.

~~1.4.~~ Signage should be used to clearly identify public versus private/residential areas.

~~1.5.~~ Streetscape signage should be appropriately scaled for pedestrians.

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## **SUSTAINABLE DEVELOPMENT**

Sustainable development is the relationship between the built environment, management practices, and green infrastructure. Sustainable development calls for practices that are economically cost-effective, enhance human health and well being, and protect and restore the environment. The Route 28 Corridor Plan supports opportunities and incentives for sustainable development so that land development is at the forefront of such practices, including green building techniques which includes sustainable site design and integrated energy management planning. The Route 28 Corridor also includes older, developed areas that do not meet today's current stormwater management requirements. As a result, stormwater management facilities in these areas do not achieve adequate pollution filtration and control. Sustainable landscaping strategies can help retain and treat stormwater, reduce stormwater runoff pollution, provide habitats for insects and migratory birds, and retain open space.

Given the diversity of Green Infrastructure within the Route 28 Corridor, the opportunity exists for development at full densities while promoting stewardship of natural areas. The defining natural feature of the corridor is the Broad Run, which drains to the Potomac River. The remaining forested lands in the corridor are primarily associated with the Broad Run and its floodplain. The Broad Run watershed also includes numerous streams, including Cabin Branch, Indian Creek, and various unnamed tributaries. The quality of these waters and the surrounding riparian areas are important not only to aquatic life and wildlife, but when integrated into

development, can be an amenity for businesses, employees, and residents in the corridor. Other Green Infrastructure resources associated with the Broad Run include a heron rookery, the State-threatened Wood Turtle within upstream tributaries of Broad Run, and habitat along portions of and areas surrounding Bles Park.

Significant standing heritage resources in the Route 28 Corridor include the W&OD trail along with the Toll House and its associated Broad Run Bridge remnants, or Stone Bridge, both of which date to 1820. Other heritage resources in the area include portions of the Vestal's Gap roadbed, of which a small segment remains in the vicinity of the Dulles Town Center and a continuous segment survives through the Claude Moore Park. Archaeological village and encampment sites can also be expected at the confluence of major streams with smaller settlements expected along contributing streams. Other Green Infrastructure elements within the Route 28 Corridor include planned and existing trails, and noise contours associated with Washington Dulles International Airport. In addition, steep and moderately steep slopes are present, primarily within or adjacent to the stream valleys and surrounding the Loudoun Quarry.

### Energy Policies

1. The County will encourage opportunities for efficiency in energy production, transmission, and consumption. The County encourages infrastructure that combines a range of primary fuels and other energy sources, including waste heat reuse and renewable energy.
2. The County will encourage benchmarking the energy use of existing and planned buildings in the Route 28 Corridor to establish a baseline for energy demand estimates in the corridor.
3. The County encourages localized, integrated energy management systems, such as recovery waste heat from high output uses like data centers to provide heating and cooling to nearby properties.
4. The County encourages localized, integrated energy management systems and will promote the use of non-traditional energy sources.

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### Stormwater Policies

1. All development will achieve 65% phosphorous removal.
2. The County will encourage the harvesting of rainwater for non-potable use, such as landscape irrigation, within all projects. The County will support Loudoun Water in the expansion of the reclaimed water network.
3. To mitigate the effects of impervious cover within the Broad Run watershed and to update older stormwater management the County will encourage efforts such as retrofitting stormwater systems and rehabilitating degraded areas to enhance their pollution removal capabilities and enable these facilities to become open space amenities.

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- | ~~+4.~~ The County promotes the use of low-impact development to replicate natural hydrologic patterns and alleviate the strain on centralized systems. Low-impact development practices can include stormwater planters, rain gardens, and wetlands to convey, retain, and treat rainwater.

### Green Building Policies

1. The County will establish a green building program to assist the private sector in implementing the recommendations outlined in this plan.
2. The County will establish standards and promote green building within the Route 28 Corridor.
3. All county-constructed facilities will be constructed to LEED Silver minimum standards, or equivalent.

### Landscaping Policies

1. The County encourages landscape approaches that conserve energy, treat stormwater runoff, minimize yard waste, control the spread of invasive species, and improve the health of site users.
- | ~~+2.~~ The County promotes the use of salvaged materials whenever possible, restoration of degraded areas, the reintroduction of native vegetation, the use of street trees to reduce energy and stormwater treatment costs, and practices to decrease soil compaction and increase the soil's nutrient content and its ability to absorb water.
3. Habitat and recreational paths shall be encouraged along utility and abandoned rights-of-way and natural features such as streams and wetlands.

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### Green Infrastructure Policies

1. The Green Infrastructure is a critical framework of the corridor that will guide where and how development and redevelopment occurs. Green Infrastructure resources will be protected and enhanced.
- | ~~+2.~~ The stream corridors associated with the Broad Run and its tributaries will be used as its primary organizing element. As the main organizing feature of the Route 28 Corridor, the Broad Run will be protected and enhanced to provide ecological benefits while being an amenity for employees and residents.
- | ~~+3.~~ The Broad Run and its floodplain is envisioned to serve as a linear park that protects the river as a natural resource while integrating it into development as an amenity for businesses and their employees - including providing the opportunity for employees to bike and walk to work.
- | ~~+4.~~ The Broad Run's tributaries, including Cabin Branch, Indian Creek, Russell Branch, Beaverdam Run, Stallion Branch, and Horsepen Run, should be used as Green

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Infrastructure links that connect employment centers with neighborhoods and other hubs of activity both within and adjacent to the corridor, including parks, heritage resources, and Public/Civic buildings. Current and planned hubs include the Urban Center, Claude Moore Park, and the Toll House and Broad Run Bridge. Connections should include permeable recreational trails, similar to the C&O Canal Path.

- | ~~4.5.~~ Development activities should assess the condition of Green Infrastructure resources, enhance these resources, and create links to other areas to create a Green Infrastructure network.
  - | ~~4.6.~~ For degraded forested areas close to the Broad Run and its tributaries, the County supports reforestation.
  - | ~~4.7.~~ The County will collaborate with the Department of Environmental Quality on any pollution impairment issues that become apparent within the Broad Run and its tributaries and will support volunteer water quality monitoring efforts and coordination of these efforts with federal, state, and local water quality data collection.
  - | ~~4.8.~~ The County will support public access through the Broad Run floodplain using methods that do not degrade sensitive features, including the use of pervious trail surfaces.
  - | ~~4.9.~~ The County will coordinate with the Metropolitan Washington Airport Authority regarding water quality protection within the Broad Run watershed.
10. Unique heritage resources within the corridor, including the Broad Run Toll House and Bridge, the remaining segments of Vestals Gap Road, and the W&OD Trail should be preserved and considered in the design, construction, operations, and maintenance of development within the corridor. Preserving and enhancing these resources fosters an appreciation for their role in the built environment.